Claims

1. A method of detecting differential expression of one or more nucleic acid sequences in a biological sample, comprising:

(a) obtaining the sample from a subject; and

(b) detecting a change in the expression level of one or more nucleic acid sequences relative to a control expression level of the nucleic acid sequences, said nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93.

2. The method of claim 1, wherein said step of detecting comprises:

(a) contacting said sample with a polynucleotide probe comprising at least 12 consecutive nucleotides of a nucleic acid sequence, said probe is capable of hybridizing under stringent conditions to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 1-93;

(b) detecting the hybridization of said polynucleotide probe to said nucleic acid sequence selected from the group consisting of SEQ ID NOs: 1-93, wherein the signal intensity of hybridization is indicative of the expression level of a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 1-93.

3. The method of claim 2, wherein said probe comprises a detectable label.

4. The method of claim 1, wherein said change in the expression level is either an increase or an decrease in expression level.

5. The method of claim 1, wherein said change in the expression level is at least two fold.

6. A method of detecting cancer or a pre-malignant condition thereof in a subject comprising comparing a) the expression level of one or more nucleic acid sequences in a biological sample from the subject with b) a control expression level of said nucleic acid

sequences, said nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93, wherein a change of at least two-fold in the expression level of said nucleic acid sequences is indicative of cancer or pre-malignant condition.

7. The method of claim 6, wherein said change in the expression level is either an increase or decrease in the expression level.

8. A method of monitoring the onset, progression, or regression of cancer or a pre-malignant condition thereof in a subject, the method comprising:

(a) detecting in a biological sample of the subject at a first point in time, the expression of one or more nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93;

(b) repeating step (a) at a subsequent point in time; and

(c) comparing the expression level detected in steps (a) and (b), wherein a change in the expression level is indicative of progression of cancer or a pre-malignant condition thereof in the subject.

9. The method of claim 8, wherein the change in the expression level is either an increase or decrease.

10. A method of determining prognosis for cancer or a pre-malignant condition thereof in a subject, comprising:

(a) detecting in a biological sample of the subject, the expression level of one or more nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93;

(b) comparing the expression level detected in steps (a) with a reference expression level of said nucleic acid sequences; and

(c) evaluating the prognosis of the subject based on the comparison in step (b).

11. The method of claim 10, wherein the reference expression level is the expression level of said nucleic acid sequences in cancer free or normal sample.

12. The method of claim 10, wherein the reference expression level is the expression level of said nucleic acid sequences cancer samples that are known not to progress to aggressive form.

13. A method of determining the efficacy of a test compound for inhibiting cancer in a subject, the method comprising comparing a) the expression level of one or more nucleic acid sequences in a first biological sample from the subject wherein the sample has been exposed to the test compound, with b) the expression level of said nucleic acid sequences in a second biological sample from the subject wherein the sample has not been exposed to the test compound, said nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93, wherein a change of at least two fold in the expression level of said nucleic acid sequences is an indication that the test compound is efficacious for inhibiting cancer in the subject.

14. The method of claim 13, wherein the change in the expression level is either an increase or decrease.

15. A method of determining the efficacy of a therapy for inhibiting cancer in a subject, the method comprising comparing a) the expression level of one or more nucleic acid sequences in a first biological sample from the subject prior to providing at least a portion of the therapy to the subject, with b) the expression level of said nucleic acid sequences in a second biological sample from the subject following the provision of the portion of the therapy, said nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93, wherein a change of at least two fold in the expression level of said nucleic acid sequences is an indication that the therapy is efficacious for inhibiting cancer in the subject.

16. The method of claim 15, wherein the change in the expression level is either an increase or decrease.

17. A method of selecting a composition for inhibiting cancer in a subject, the method comprising:

(a) obtaining a first biological sample comprising cancer cells from the subject;

(b) separately exposing aliquots of the sample in the presence of a plurality of test compositions;

(c) comparing the expression level of one or more nucleic acid sequences in each of the aliquots from (b) with the expression level in the sample produced by (a), said nucleic acid sequences comprising one or more nucleic acid sequences selected from the group consisting of SEQ ID NOs: 1-93; and

(d) selecting one of the test compositions which induces a change of at least two fold in the expression level of said nucleic acid sequences in one aliquot containing the test composition.

18. The method of claim 17, wherein the change in the expression level is either an increase or decrease.

19. A method of inhibiting cancer in a subject, the method comprising:

(a) obtaining a first biological sample comprising cells from the subject;

(b) administering to the subject one or more test compositions;

(c) obtaining a second biological sample comprising cells from the subject of (b); and

(d) comparing the expression level of one or more nucleic acid sequences in the first sample with the expression level of said nucleic acid sequences in the second

sample, wherein a change of at least two fold in the expression level is indicative of inhibition of cancer by said test compositions.

20. A polypeptide comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186.

21. An antibody that specifically binds to a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186.

22. The antibody of claim 21, wherein said antibody is polyclonal antibody.

23. The antibody of claim 21, wherein said antibody is monoclonal antibody.

24. A method of detecting in a biological sample the presence of a polypeptide comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, said method comprising:

(a) obtaining said biological sample from a subject;

(b) contacting said sample with a polypeptide ligand which is capable of binding to one or more of SEQ ID NOs: 94-186; and

(c) detecting the binding of said polypeptide ligand to said polypeptide, wherein detecting of binding is indicative of the presence of said polypeptide sequence comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186 in said biological sample.

25. The method of claim 24, wherein the polypeptide ligand is an antibody.

26. The method of claim 24, wherein the polypeptide ligand comprises a detectable label.

27. The method of claim 25, wherein the antibody is a monoclonal antibody.

28. A method of detecting cancer or a pre-malignant condition thereof in a subject comprising:

(a) obtaining a biological sample from a subject;

(b) contacting the sample with one or more polypeptide ligands that bind specifically to one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186;

(c) determining specific binding; and

(d) comparing the specific binding between the polypeptide ligands and the polypeptides in the sample with the specific binding between the polypeptide ligands and the polypeptides in a cancer-free sample, wherein a significant change in the specific binding is diagnostic for cancer in the subject.

29. A method of monitoring the onset, progression, or regression of cancer in a subject, comprising:

(a) contacting at a first point in time a first biological sample with one or more polypeptide ligands that specifically bind to one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, determining specific binding between the polypeptide ligands and the polypeptides;

(b) contacting at a subsequent point in time a second biological sample with said polypeptide ligands that specifically bind to one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, determining specific binding between the polypeptide ligands and the polypeptides; and

(c) comparing the specific binding in the first biological sample to the specific binding in the second biological sample, wherein a significant change in the specific binding is an indication of the onset, progression, or regression of cancer.

30. A method of determining prognosis for cancer or a pre-malignant condition thereof in a subject, comprising:

(a) contacting a biological sample obtained from a subject having cancer with one or more polypeptide ligands that bind specifically to one or more polypeptides

comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186;

(b) determining specific binding;

(c) comparing the specific binding between the polypeptide ligands and the polypeptides in the sample with the specific binding between the polypeptide ligands and the polypeptides either in a cancer-free sample or in a cancer sample that is known not to progress to aggressive form; and

(d) evaluating the prognosis of the subject based on the comparison in step (c).

31. A method of determining the efficacy of a test compound for inhibiting cancer in a subject, the method comprising comparing a) in a first biological sample from the subject binding between one or more polypeptide ligands that specifically bind to one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186 and one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, wherein the sample has not been exposed to the test compound, with b) in a second biological sample from the subject, the specific binding of said polypeptide ligands and said polypeptides, wherein the sample has been exposed to the test compound, and wherein a significant change in the specific binding is an indication that the test compound is efficacious for inhibiting cancer in the subject.

32. A method of determining the efficacy of a therapy for inhibiting cancer in a subject, comprising comparing a) in a first biological sample from the subject prior to a treatment, binding between one or more polypeptide ligands that specifically bind to one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186 and one or more polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, with b) in a second biological sample from the subject following the treatment, the specific binding of said polypeptide ligands and said polypeptides, and wherein a significant

change in the specific binding is an indication that the test compound is efficacious for inhibiting cancer in the subject.

33. A method of selecting a composition for inhibiting cancer in a subject, comprising

(a) obtaining a first biological sample comprising cancer cells from the subject;

(b) separately exposing aliquots of the sample in the presence of a plurality of test compositions;

(c) comparing the specific binding between one or more polypeptide ligands and one or more polypeptides in each of the aliquots from (b) with the specific binding between said polypeptide ligands and said polypeptides in each of the aliquots from (a), wherein said ligands comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, and wherein said polypeptides comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186; and

(d) selecting one of the test compositions which induces a significant change in specific binding .

34. A method of inhibiting cancer in a subject with cancer, comprising:

(a) obtaining a first biological sample comprising cells from the subject;

(b) administering to the subject one or more test compositions;

(c) obtaining a second biological sample comprising cells from the subject of (b); and

(d) comparing the specific binding between one or more polypeptide ligands and one or more polypeptides in the first sample with the specific binding between said polypeptide ligands and said polypeptides in the second sample, wherein said ligands comprising a polypeptide sequence selected from the group consisting of SEQ ID NOs: 94-186, and wherein said polypeptides comprising a polypeptide sequence selected from

the group consisting of SEQ ID NOs: 94-186, and wherein a significant change in the specific binding is an indication of inhibition cancer by said test compositions.